United States Department of Agriculture

Forest Service

2007

Environmental Assessment

Clackamas Side Channel and Culverts

Clackamas River Ranger District, Mt. Hood National Forest
Clackamas County, Oregon
The project is located in section 27 of T. 4 S. R. 5 E., and sections 44 and 45 of T. 3 S. R. 3 E.; Willamette Meridian.

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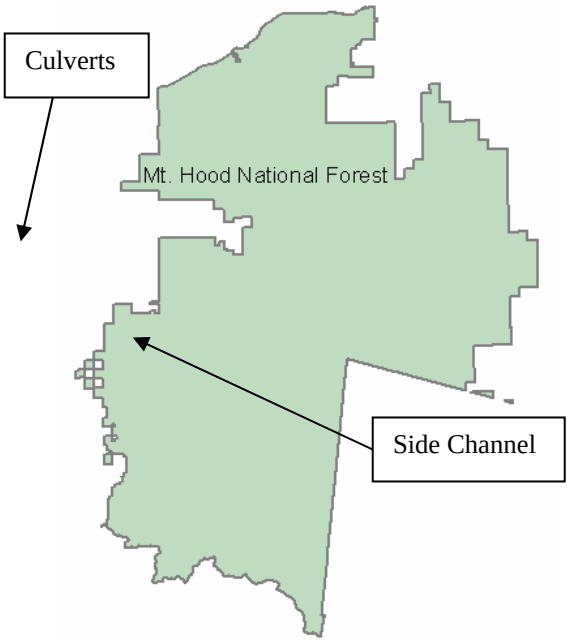


CHAPTER 1 - PURPOSE AND NEED FOR ACTION

This Environmental Assessment (EA) includes fish habitat restoration projects. Two of the projects are not on the Mt. Hood National Forest but are included because there is federal funding.

Purpose and Need

- Many years ago the Clackamas River had multiple side channels that were impacted when Highway 224 was built. Side channels are important rearing areas for young fish. The purpose of this project is to reconnect a side channel and create suitable habitat for young fish.

- Some roads cross streams and have culverts that block or impede fish passage. Two culverts are included in this analysis. The purpose is to replace these culverts with bridges that allow passage of fish.

Proposed Action

The proposed action is Alternative 2.

Management Direction – The side channel project has been designed to meet the goals and objectives of the Mt. Hood Forest Plan as amended. The standards and guidelines of the Forest Plan are not applicable to the off-Forest culvert projects.

Public Involvement

The Forest publishes a schedule of proposed actions (SOPA) quarterly. The project first appeared in January 2007. A letter to request public input for this project was sent in March 2007 to request comments. The 30-day comment period ended on June 13, 2007.

Issues

No key issues were identified through scoping. Key issues are those that would influence the development of alternatives to the proposed action.

The interdisciplinary team did identify one concern – impacts to water quality and fish habitat. There is a concern that ground disturbance associated with restoration projects, particularly where they happen close to streams and rivers, may result in short-term sedimentation and increased turbidity until erosion control measures take effect.

CHAPTER 2 - MANAGEMENT ALTERNATIVES

Alternative 1 (No Action)

Alternative 1 is the "no action" alternative. Under this alternative, no restoration activities would occur.

Alternative 2 (Proposed Action)

- The project would reconnect a side channel of the Clackamas River (near mile post 35) using a back hoe to create a small channel connected to the river at both ends. Logs would be installed to add structure and pools.

- The project would replace two culverts with bridges that allow better passage of fish. One is at the junction of Bargfeld Creek and Fischers Mill Road and the other is at the junction of Spring Creek and Mattoon Road.

Design Criteria and Best Management Practices

1. Projects would only occur within work timing guidelines for in-stream projects set up by Oregon Department of Fish and Wildlife (ODFW) to protect incubating fish eggs and spawning fish. In-stream work would occur between July 15 through August 31. This restriction may be waived if ODFW biologists concur and a documented waiver is granted by NOAA Fisheries. This restriction applies only to the portion of a project where in-stream work is conducted and not to other project phases such as road paving.

2. During the culvert projects, stream flow would be guided or diverted away from the reconstruction site. Flow would be restored to the reconstructed stream course once construction is complete. Excavated materials would be removed from the flood plain. Erosion control devices would be installed to capture and reduce downstream transport of fine sediments.

3. To reduce erosion, bare soils would be revegetated. Grass seed and fertilizer would be evenly distributed at sites of soil disturbance. Steeper slopes that have bare soils would also have mulch applied to ensure successful establishment. Effective ground cover would be installed prior to October 1 of each year.

4. To minimize the spread of invasive weeds the following actions would be taken for all projects where applicable.

   Control weeds as necessary at project sites.

   All off-road equipment is required to be free of soil, seeds, vegetative matter, or other debris that could contain or hold seeds prior to coming onto National Forest lands. Timber sale contracts and service contracts would include provisions to minimize the

introduction and spread of invasive plants. These provisions contain specific requirements for the cleaning of off-road equipment.

Native plant materials are the first choice in revegetation of bare soils. Non-native, non-invasive plant species may be used if native plant materials are not available or as an interim measure designed to aid in the re-establishment of native plants. Non-native invasive plant species would not be used.

Grass seed would preferably be certified by the states of Oregon or Washington or grown under government-supervised contracts to assure noxious weed free status. In certain cases, non-certified seed may be used if it is deemed to be free of Oregon State Class A & B noxious weeds.

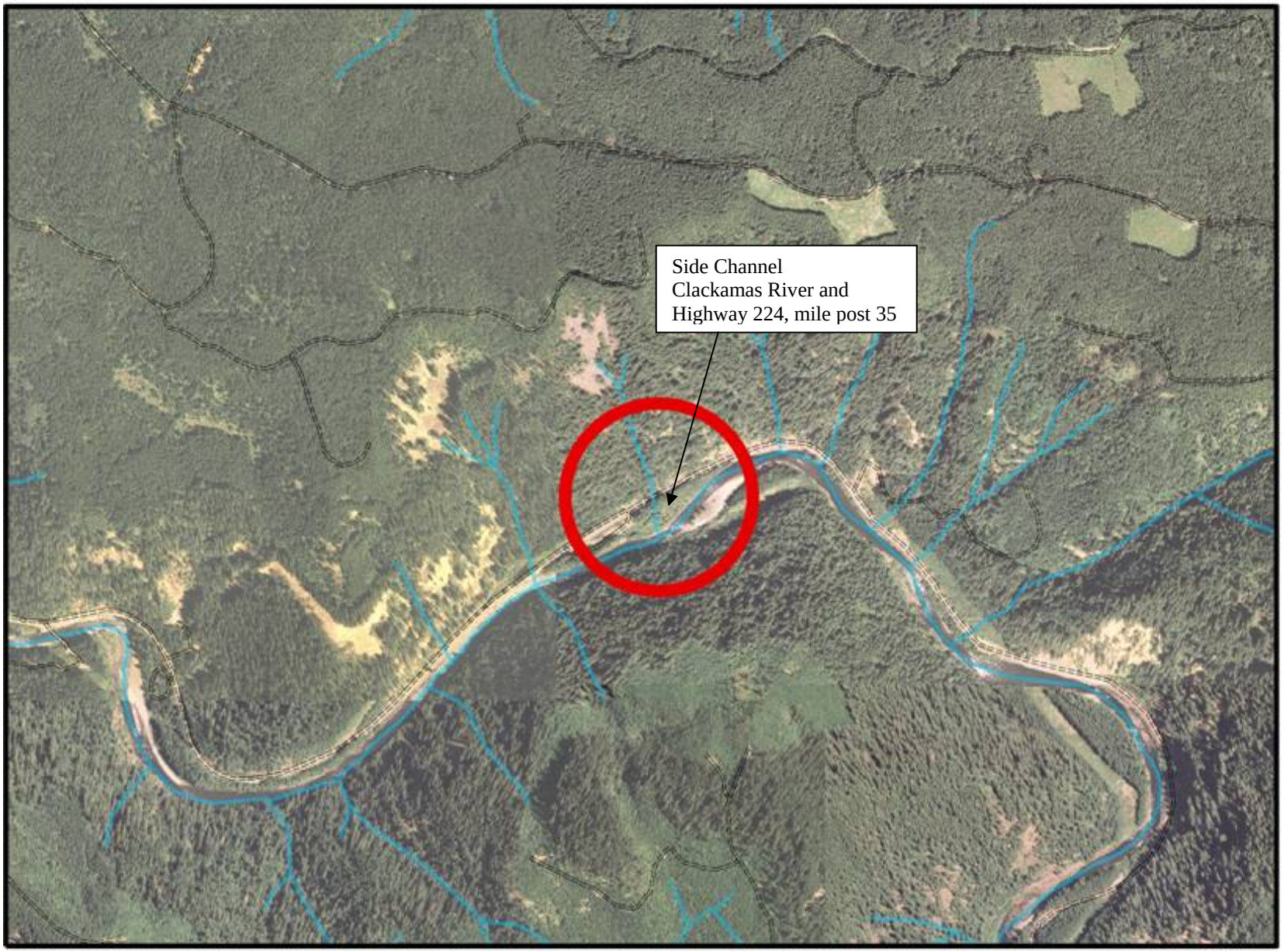
When straw and mulch are utilized, it would originate from the state of Oregon or Washington fields, which grow state-certified seed, or grown under government-supervised contracts to assure noxious weed free status, or originate in annual ryegrass fields in the Willamette Valley. In certain cases, straw or hay from non-certified grass seed fields may be used if is deemed to be free of Oregon State Class A & B noxious weeds.

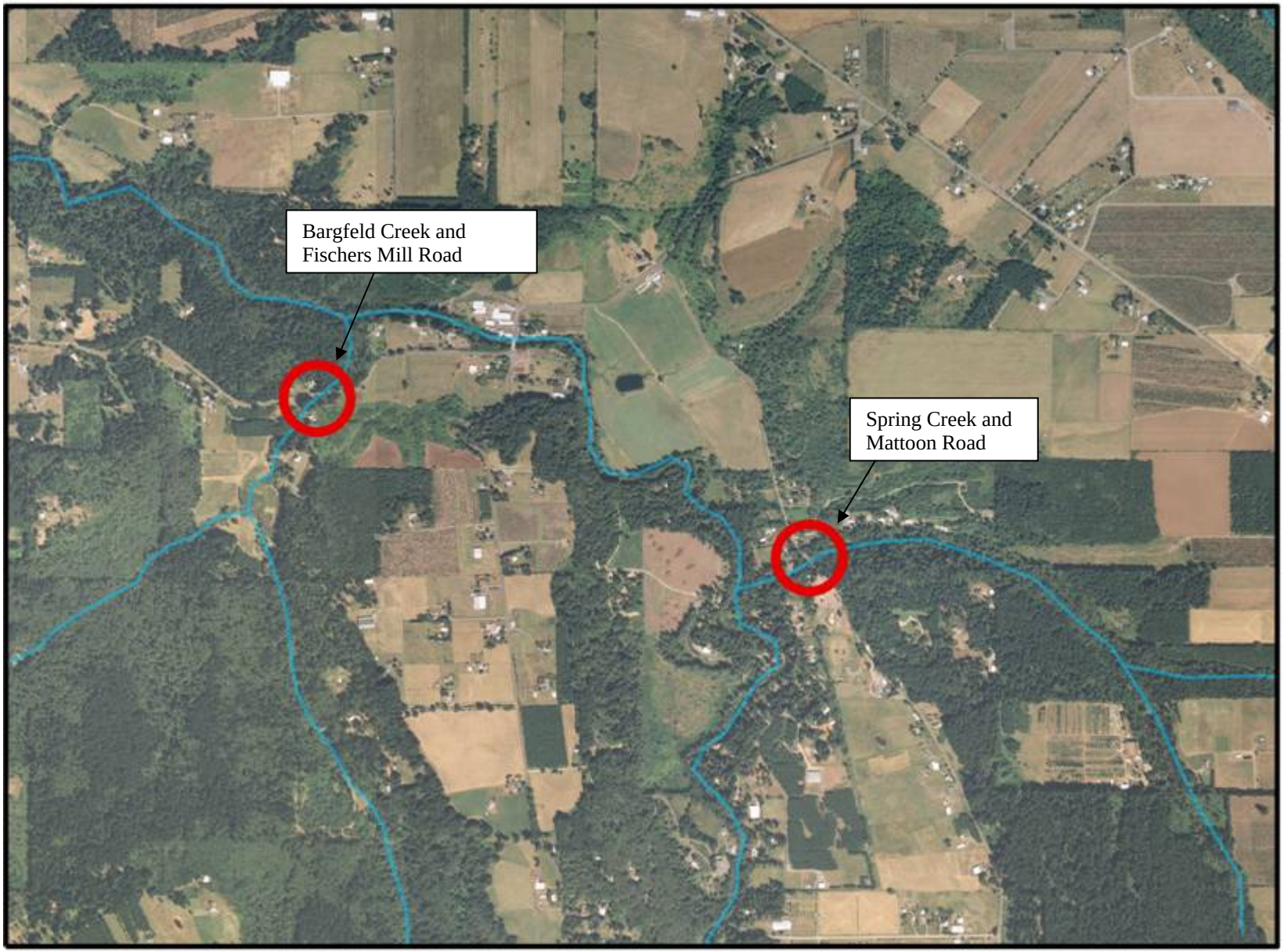
CHAPTER 3 - ENVIRONMENTAL CONSEQUENCES

Fish and Water Quality

Effects of Alternative 1 (No Action)

Alternative 1 would not meet the goals described in the purpose and need section. Important off-channel rearing and refugia habitat would not be improved if the proposed side channel project fails to be implemented. Habitat conditions would continue to be less than optimal for threatened fish species that occur within the Clackamas River. Under Alternative 1 no fish passage barriers would be corrected. In stream systems that currently have partial or full fish passage barriers due to inadequate stream crossings, fish would continue to have problems moving throughout the stream system. These impediments result in under utilization of spawning and rearing habitats and hinder the broad exchange of genetic material throughout the population. When culverts are too small to accommodate a 100-year flood event, there is the potential for culverts to become plugged, possibly resulting in washout and damage to the aquatic environment. Washouts would introduce a pulse of sediment into the stream system and cause degradation of downstream aquatic habitat. Alternative 1 does not take any steps in the direction of moving toward improving watershed conditions.


Side Channel
Clackamas River and
Highway 224, mile post 35


Bargfeld Creek and
Fischers Mill Road
Spring Creek and
Mattoon Road

Effects of Alternative 2 (Proposed Action)
The Clackamas River side channel restoration and culvert replacement projects involve work within or adjacent to the active stream channel. If not done carefully they could deliver sediment, create turbidity, and cause stream bank erosion. The use of heavy mechanized equipment such as a track hoe or articulated backhoe (spyder), could disturb the stream influence zone, disturb fish, and cause incidental mortality. There is also the potential of an accidental fuel/oil spill.

These projects may cause a short-term degradation of water quality due to sediment input and chemical contamination. Stream bank condition and habitat substrate may also be adversely affected in the short term. However with careful project design and mitigation, these affects are expected to be of a limited extent and duration.

Direct effects to fish species resulting from these projects include reduced feeding efficiency during times of increased turbidity and the possibility of individual mortality during construction. Fish rely on sight to feed so feeding success could be hampered during those times turbidity is increased. This would be a short-term effect since turbid conditions would dissipate soon after an in-stream work phase was completed, generally within a few hours.

Any time there is digging or equipment used within the live stream channel there is a possibility fish could be killed or seriously injured by being crushed, run over by equipment, etc. Based on previous experience with in-stream restoration projects, most fish vacate the area when equipment disturbs the stream channel.

Indirect effects are possible from increased amounts of fine sediment degrading aquatic habitat after project implementation is completed. Fine sediment sources include material mobilized from the stream channel during construction or erosion of exposed soil during and after project implementation. Potential impacts from increased amount of fine sediments are degradation of spawning habitat and a reduction in rearing habitat caused by sediments filling in pools. Although these processes occur naturally, changes in channel geometry as a result of restoration activities could cause localized areas of erosion until the channel reaches equilibrium at those sites.

The amount of sediment generated from these projects is expected to be low due to the time when the projects are implemented and the use of best management practices. Once exposed soil areas are re-vegetated and stabilized, erosion would be negligible. Affected areas would be localized and probably extend no further than several hundred feet downstream from the project site. The effects would be relatively short-term; as flows in the winter increase, any sediment caused by project activity would be redistributed downstream and in effect diluted as material settles in different areas.

The probability of “take” of threatened or proposed species resulting from the implementation of these types of projects is low, but present regardless, as is any long-term adverse modification of habitat. Following in-stream work guidelines, project design criteria, using aggressive erosion control measures, and adherence to applicable Best Management Practices (BMP’s) effects would be negligible at the watershed scale.

Generally, any cumulative effect on fishery and aquatic resources resulting from project implementation focus around fine sediment input into streams. This sediment can result from construction activities, or occur at a later date, such as from precipitation on disturbed ground prior to vegetation being re-established. Fine sediment produced as a result of these restoration projects, both directly and indirectly, would contribute to the overall sediment load within the watersheds where activities would occur. Adherence to Best Management Practices (BMPs), mitigation measures and project design criteria would minimize any long-term adverse effects of project implementation.

Many restoration projects result in short-term sedimentation until erosion control measures take effect. Other projects that occur in the same watersheds such as timber harvest and road construction have the potential to contribute cumulatively to the sediment load moving down streams and rivers.

Projects on federal lands would be designed to be consistent with the **Aquatic Conservation Strategy** and Best Management Practices. The short-term sedimentation associated with restoration projects when combined with all other sources would not likely result in harm to fish habitats or water quality for the following reasons:

- Each project would contain mitigations to minimize or eliminate sources of erosion by applying grass seed and/or mulch to areas of bare soil.
- Seasonal restrictions would be observed where appropriate to accomplish work during the dry season.
- The site specific scope of activities which have the potential to result in impacts are extremely limited in geographic scope and environmental effect.
- The duration of the impacts is of a relatively short time frame.
- The natural range of variability is so wide for key variables, such as sediment regime, that this clearly does not interfere with trend/condition in the watershed as a whole.
- The project clearly would have beneficial impacts for fish passage and fish rearing habitat.
- The projects would have a restorative effect which is the primary theme of a majority of the ACS Objectives.

There are many sources of sedimentation in the portions of watersheds that are privately managed. Timber harvest and road building would meet the standards of the Oregon Forest Practices Act that contains many provisions to minimize erosion. Farming, grazing, and land development are other potential sources of sedimentation.

All activities that may produce potential sources of sedimentation, whether public or private, would likely occur widely dispersed geographically and chronologically, therefore concentrations of sediment in any given watershed at any given time would be unlikely. The recovery from short-term effects from one project may be complete by the time another project in the same watershed is implemented.

Beneficial effects from implementation of the proposed projects include long-term improvements to fish habitat and riparian areas, restored fish passage for all life histories of threatened and proposed species, re-established connectivity of fish populations above and below man-made barriers, restoration of hydrologic function, more natural routing of wood and sediment through stream systems.

FISH AND AQUATIC SPECIES THAT OCCUR WITHIN THE PROJECT AREA

List of Proposed, Endangered, Threatened, or Sensitive (PETS) Fish and Aquatic Mollusk Species found on the Mt. Hood National Forest and addressed under this Biological Evaluation:

	Date of Listing	Suitable Habitat Present	Species Present	Effects of Actions Alternatives	
Endangered Species Act Listing by ESU *Threatened*				***No Action***	***Action***
Lower Columbia River steelhead & CH (Oncorhynchus mykiss)	3/98 1/06	Yes	Yes	NE	LAA
Lower Columbia River chinook & CH (Oncorhynchus tshawytscha)	3/99 1/06	Yes	Yes	NE	LAA
Columbia River Bull Trout (Salvelinus confluentus)	6/98	No	No	NE	LAA
Middle Columbia River steelhead & CH (Oncorhynchus mykiss)	3/99 1/06	Yes	No	NE	LAA
Upper Willamette River chinook & CH (Oncorhynchus tshawytscha)	3/99 1/06	Yes	Yes	NE	LAA
Lower Columbia River coho (Oncorhynchus kisutch)	6/05	Yes	Yes	NE	LAA
Regional Forester's Sensitive Species List Survey and Manage					
Interior Redband Trout (*) (Oncorhynchus mykiss spp.)	7/04	Yes	No	NI	NI
Columbia dusky snail (*,+) (Lyogyrus n. sp. 1)	7/04 1/01	No	No	NI	NI
Basalt Juga (+) (Juga oreobasis n. sp .2)	01/01	No	No	NI	NI

Abbreviations/ Acronyms:

Endangered Species Act Abbreviations/ Acronyms:		**Essential Fish Habitat Abbreviations/ Acronyms:**	
NE	No Effect	NAA	Not Adversely Affected
NLAA	May Affect, Not Likely to Adversely Affect	AE	Adverse Effects
LAA	May Affect, Likely to Adversely Affect		
Regional Forester's Sensitive Species List* and Survey and Manage + Abbreviations/ Acronyms:			
Unk	Species presence unknown but suspected		
NI	No Impact		
MIIH	May impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or loss of viability to the population or species		

The Biological Evaluation contains greater detail on these species.

Project work will have short-term affects but would not adversely modify designated critical habitat where Lower Columbia River steelhead, Lower Columbia River chinook salmon, or Upper Willamette River chinook salmon occur. Any adverse effects to fish species or habitat would be short-term, within the first few years. The long-term effects of these projects are beneficial.

DESIGNATED CRITICAL HABITAT

Critical habitat for twelve ESUs of West Coast salmon and steelhead listed under the Endangered Species Act of 1973 was designated on September 2. 2005. Critical habitat includes the stream channels within the designated stream reaches, and includes a lateral extent as defined by the ordinary high-water line or bankfull elevation. Within these areas, the primary constituent elements essential for the conservation of these ESUs are those sites and habitat components that support one or more life stages, including: freshwater spawning sites, freshwater rearing sites, freshwater migration corridors, estuarine areas, near-shore marine areas, and off-shore marine areas that support growth and maturation.

Primary constituent elements listed below, refer to freshwater habitat components. Nothing proposed in any alternative would have any affect on estuarine or marine habitat components, thus they are not discussed.

1. Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation and larval development.

2. Freshwater rearing sites with:

    a. Water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility;

    b. Water quality and forage supporting juvenile development; and

    c. Natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.

3. Freshwater migration corridors free of obstruction and excessive predation with water quantity and quality conditions, and natural cover, such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.

Designated critical habitat for UWR chinook, and LCR chinook occurs within or downstream of the proposed project areas in the mainstem Clackamas River and Clear Creek. Designated

critical habitat for LCR steelhead occurs within or downstream of the proposed project area in the mainstem Clackamas River, Clear Creek, Spring Creek, and Bargfeld Creek. As of this time, critical habitat for LCR coho has yet to be designated but will likely correspond with the critical habitat designation for LCR steelhead in the mainstem Clackamas, Spring Creek, and Bargfeld Creek.

Project design criteria was developed to minimize or eliminate any potential affect that project elements of the action alternatives might have on have on water quality, fisheries, and aquatic resources. The analysis of effects has determined that the probability of any potential effect to designated critical habitat would be of a short-term duration. There would be no measurable long-term effect to any habitat or baseline habitat indicators where ESA listed fish species occur. The implementation of this project would not have any long-term adverse effect to designated critical habitat. Therefore, an effects determination of **May Affect, not Likely to Adversely Affect (NLAA)** is warranted for designated critical habitat that occurs within or downstream of the project area.

ESSENTIAL FISH HABITAT

Essential Fish Habitat (EFH) established under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) includes those waters and substrate necessary to ensure the production needed to support a long-term sustainable fishery (i.e., properly functioning habitat conditions necessary for the long-term survival of the species through the full range of environmental variation). EFH includes all streams, lakes, ponds, wetlands, and other water bodies currently, or historically, accessible to salmon in Washington, Oregon, Idaho, and California. Three salmonid species are identified under the MSA, chinook salmon, coho salmon and Puget Sound pink salmon. Chinook and coho salmon occur throughout the Clackamas River watershed in the lower Clackamas River and within waters of Mt. Hood National Forest. Chinook and coho salmon utilize the mainstem Clackamas River for migration, rearing, and spawning habitat. Coho salmon also utilize Bargfeld Creek and Spring Creek for spawning and rearing habitat. The proposed project would not have any long term adverse effect on water or substrate essential to the life history of coho, chinook, or chum salmon that occur within any basin on the Mt. Hood National Forest.

Implementation of the projects proposed would have a short-term impact but would **Not Adversely Affect** essential fish habitat for chinook or coho salmon. This activity would not jeopardize the existence of any of the species of concern or adversely modify critical habitat and would not adversely affect Essential Fish Habitat as designated under the 1996 Amendment to the Magnuson-Stevens Act.

Wildlife

A Biological Evaluation has been completed for this project. It is incorporated by reference and summarized below. No consultation was necessary for the spotted owl on these proposed projects due to a lack of effects. Consultation for the bald eagle (disturbance only) is documented in a Letter of Concurrence written by U.S. Fish & Wildlife Service and is dated

October 17, 2005. The Side Channel project area occurs within a late-successional reserve (LSR, Roaring River – RO 207A).

Management Indicator Species for this portion of the Mt. Hood National Forest include northern spotted owl, pileated woodpecker, pine marten, deer, elk, salmonid smolts and legal trout (Forest Plan p. four-13).

Northern Spotted Owl (Threatened)

Existing Condition of Project Areas - The Side Channel Project site does not contain suitable or dispersal habitat. However, the immediate surrounding landscape does contain abundant spotted owl habitat. The project area also occurs within Late-Successional Reserve RO-207. There is no spotted owl Critical Habitat Unit (CHU) within the area.

The culvert removals and bridge construction projects occur on Clackamas County roads. There is no spotted owl habitat (suitable or dispersal) for owls within or near the project site. No CHU or LSR occurs near these project areas. No further analysis is required for this project.

Direct and Indirect Effects

Alternative 1 - No effect to the spotted owl would be predicted with the no action alternative.

Alternative 2 –

Effects to Habitat: Although suitable spotted owl habitat occurs near the project area, the project area itself does not contain any spotted owl habitat. Instead, the project area is comprised of the natural side channel to the Clackamas River with a component of young deciduous trees. The project site sits in between Highway 224 and the Clackamas River. Suitable habitat for the spotted owl surrounds the project site to the north of Highway 224 and to the south of the Clackamas River.

Since ground disturbance and vegetation alterations occur fully outside of spotted owl habitat, no modification of spotted owl habitat (suitable or dispersal) would occur with implementation of project proposal. No modification to spotted owl habitat would occur.

Effects to Spotted Owl from Disturbance: The only activities planned that have the potential to disturb spotted owls potentially nesting in the area is the back hoe and excavator. However, due to the noise level created by the Clackamas River and the vehicles driving on Highway 224, the use of this equipment is likely to be below the ambient noise level already being produced in this environment. Therefore, the proposed activities would not negatively impact the health or resultant survival of any spotted owl individuals or nesting pairs that potentially resides close to the project area.

Cumulative Effects –

A cumulative effects analysis has not been conducted for spotted owls because there would be no impacts to spotted owls or their habitat as a result of this project.

Forest Plan Standards and Guidelines

These projects are consistent with the Forest Plan as amended.

Endangered Species Act Compliance

The northern spotted owl is listed as threatened throughout its range under the endangered species act (55 CFR 26114) on June 22, 1990. Any action that would result in a beneficial effect or could result in an adverse impact to the spotted owl would result in a may effect determination and would require consultation with the U.S. Fish and Wildlife Service.

Due to the "No Effects" call for this project, consultation with the U.S. Fish and Wildlife Service is not required.

Northern Bald Eagle (Threatened)

Existing Situation - The Side Channel Project Area itself does not contain bald eagle habitat. This site lacks the structural components necessary for potential bald eagle nesting, perching, or communal roosting habitat. It lack a mature multi-story structure with old-growth or old-age second-growth trees. However, marginal bald eagle habitat does occur within some of the mature forested stands directly adjacent to the Clackamas River and near the project area.

Bald eagles are occasionally observed on the Clackamas River. Although there have been no documented nesting eagles in the area, there is suitable nesting, roosting, and perching habitat within this portion of the River. Most of the forest stands with characteristics favorable to bald eagles and that would provide these sites for eagles are located very near the banks of the River. The nesting quality is considered fair in the area, with prey availability being the likely limiting factor. Most adequate nesting habitat in these areas would also be impacted by disturbance from the heavy traffic and easy access provided by Highway 224. This highway occurs adjacent to the river bank of the Clackamas River and the project area. There is no visual buffer between the project area and highway. This prevents any potential foraging or nesting areas from being free of disturbance. Roosting quality in the area is considered marginal to fair. The surrounding area provides potential perching habitat due to the presence of snags and trees providing a good view of the surrounding area and their proximity to the Clackamas River.

The two culvert removals and bridge placements occur on streams which are much too small to be considered potential habitat for bald eagles. There are no large enough water sources in the surrounding area to provide potential habitat for bald eagles. No further analysis needed due to

lack of habitat.

Direct and Indirect Effects

Alternative 1 - There would be no effects to the northern bald eagle with the no action alternative.

Alternatives 2

Effects to Habitat - There would be no effects to potential nesting, communal roosting, or perching bald eagle habitat due to the lack of these habitats within the project area. The project area consists of a floodplain and side channel and consists of small to medium sized deciduous trees and does not contain any relatively large diameter trees with irregular crowns, remnant trees, or snags that could serve as potential perch, nest, or roost trees.

Effects to Individuals - If a bald eagle were present in the immediate surrounding area during project implementation, it would have the ability to quickly move to adjacent acceptable habitat. No harm would come to the individuals. There is potential bald eagle nesting, communal roosting, and high quality perching habitat close to the project site. Disturbance caused by project implementation could cause these potential habitats to be temporarily unavailable to bald eagles. However, this is not likely since the ambient noise level of the area is already high due to the river noise and traffic on Highway 224.

Since the availability of a high quality foraging source is the limiting factor for bald eagle in the area and not the habitat components comprising roosting, nesting and perching habitats, the possible temporary unavailability of a very small percentage these habitats is not predicted to impact bald eagles present in the area. Because of the high visibility of bald eagles, it is unlikely that this project would be implemented in an area with an undiscovered bald eagle nest or roost. If a new bald eagle nest or roost is discovered within 0.25 mile (or 0.5-mile sight distance) of the project, the situation would immediately be evaluated by the District Biologist for potential effects on bald eagles and mitigated to prevent disturbances.

Effects to Population - None expected since there would be no meaningful effects to bald eagles and their habitat.

Cumulative Effects –

The action alternative would have no cumulative effects on potential bald eagle nesting, communal roosting, or perching habitat. A cumulative effects analysis is not needed for bald eagle habitat because there would be no change in bald eagle habitat with implementation of the proposed action.

Forest Plan Standards and Guidelines

Mt. Hood Forest Plan References
Forestwide Wildlife Standards and Guidelines – FW-170 to 186, page Four-69

Management Area Standards and Guidelines – A13-001 to 038, page Four-203

The action alternatives are consistent with the following standards and guidelines

FW-172	There are no A13 – Bald Eagle Habitat Areas in the project area.
FW-173	There would be no perch trees removed within 200 feet of a river or lake used by eagles for hunting and feeding.
A13-001 to 038	The A13 Bald Eagle Habitat Area standards and guidelines (A13-001 to A13-038) do not apply because there is no A13 land allocation within the project area.

Endangered Species Act Compliance

Bald Eagle Effects Determination

All action alternatives would have a "May Affect, not Likely to Adversely Affect" for disturbance only on the bald eagle.

There would be no effect to bald eagle habitat so consultation with the U.S. Fish and Wildlife Service was not needed for modification to bald eagle habitat. However, there is the potential for disturbance effects to the species. Consultation with the U.S. Fish and Wildlife Service is covered under the Letter of Concurrence dated October 17, 2005.

Special Status Species

The following table summarizes effects to Sensitive Species from the Biological Evaluation.

Species	Suitable Habitat Presence	Impact of Alternatives* Alt. B
Oregon Slender Salamander	No	NI
Larch Mountain Salamander	No	NI
Cope's Giant Salamander	No	NI
Cascade Torrent Salamander	No	NI
Oregon Spotted Frog	Yes	MII-NLFL
Painted Turtle	Yes	NI
Northwestern Pond Turtle	Yes	NI
Horned Grebe	No	NI
Bufflehead	No	NI
Harlequin Duck	No	NI
American Peregrine Falcon	Yes	NI
Gray Flycatcher	No	NI
Baird's Shrew	No	NI
Pacific Fringe-tailed Bat	Yes	NI

California Wolverine	No	NI
Puget Oregonian	No	NI
Columbia Oregonian	No	NI
Evening Fieldslug	No	NI
Dalles Sideband	No	NI
Crater Lake Tightcoil	No	NI

* "NI" = No Impact
"MII-NLFL" = May Impact Individuals, but not likely to Cause a Trend to Federal Listing or Loss of Viability to the Species

Effects to the species listed above include changes to habitat as well as potential harm to individuals caused by physical impacts of mechanical equipment, falling and dragging trees, and noise.

Forest Plan Standards and Guidelines

Mt. Hood Forest Plan References
Forestwide Wildlife Standards and Guidelines – FW-170 to 186, page Four-69

The action alternatives are consistent with the following standards and guidelines

FW-176	Biological Evaluations have been prepared.
FW-186	None of the proposed actions would occur within ¼ mile of an active peregrine falcon nest between April 1 and July 31st.

Wildlife Survey and Manage Species: Terrestrial Mollusks, Red Tree Voles, Salamanders and Great Gray Owls

The project sites are less than 80 years of age and therefore survey and manage standards and guidelines are not applicable. The projects would be in compliance with the 2004 Record of Decision for survey and manage. Habitat for terrestrial mollusks, red tree vole, salamanders or great gray owls is not affected by the project.

Other Species

There would be little or no impact to other wildife species such as deer, elk, pine marten, pileated woodpecker, snag dependent species or migratory birds.

There may be beneficial effects to down wood dependent species due to the addition of down wood that would occur with the Side channel project.

Botany

The project areas were surveyed and no rare botanical species on the Regional Forester's Sensitive Species list (Region 6, Pacific Northwest) or on the Survey and Manage list for the Northwest Forest Plan were found. Nor were any federally listed or state-listed plant species found.

A number of alien (exotic) plant species were found at the restoration sites:

1. **Culvert Replacement at Matoon Road**: English ivy, nipplewort, Norway maple, shining crane's-bill, periwinkle, thistle

2. **Culvert Replacement at Fischers Mill Road**: Himalayan blackberry, nipplewort

3. **Side Channel Along Clackamas River**: cat-tail, climbing nightshade, dock, hairy cats-ear, herb Robert, Himalayan blackberry, orchard grass, reed canary grass, Scotch broom, thistle

As part of the restoration work it is recommended that (1) the highly invasive plant species be treated (removed by manual or mechanical methods) and (2) the treated sites be actively restored with the planting of native vegetation in order to occupy the disturbed ground where non-native vegetation is removed and to prevent re-colonization by invasives.

Costs and Benefits

Each project is designed with cost effectiveness as a primary objective so that the limited funding available for restoration can be efficiently used to achieve the greatest benefit.

In addition to the resource benefits described elsewhere, there are considerable economic values gained by society when fish habitats are restored.

Wild and Scenic Rivers

The proposed Clackamas River Side Channel Project is located at approximately milepost 35 of Highway 224 along the east side of the Clackamas River. The entire area is within the Clackamas Wild and Scenic River Corridor. The river is also a State Scenic Waterway. A Wild and Scenic River and State Scenic Waterway Management Plan was developed in 1993. The following is a summary of a Section 7(A) Evaluation that is in the analysis file. This report documents consistency with the intent of the National Wild and Scenic Rivers Act to keep rivers free flowing and to preserve the Outstandingly Remarkable Values (ORVs) associated with the river.

EFFECTS ON FREE-FLOW

The proposed activity would improve the free flow conditions of the Clackamas Wild and Scenic River by improving channel complexity and by restoring natural river processes, such as the ability of the river to naturally reconnect with its floodplain.

DIRECT EFFECTS ON ORVS AND/OR OTHER SIGNIFICANT VALUES

The Clackamas River Side Channel project would have a short-term effect (two weeks or less) on recreation on and along the river. It would result in a temporary reduction of the recreation quality in the immediate area of the project during the construction period. Implementation of the conservation measures provides for the maintenance of the free-flowing condition and the outstandingly remarkable values for which the Clackamas River was designated.

DETERMINATION

The proposed project would not unreasonably diminish the free-flowing quality, outstandingly remarkable values, or other natural resource values for which the Clackamas River was designated. The proposed project is consistent with management goals and objectives of the WSRA and the Clackamas National Wild and Scenic River and State Scenic Waterway Environmental Assessment and Management Plan.

Heritage Resources

Previous surveys and a pre-inspection was conducted for this project with no new sites discovered. This project is discussed in heritage resource report numbers 2007-060605-0008 and 2007-060605-0009. There would be no anticipated effects on heritage resources with any of the alternatives. Contracts would contain provisions for the protection of sites found during project activities. Documentation of this information has been forwarded to the State Historic Preservation Office.

CHAPTER 4 - CONSULTATION WITH OTHERS

The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes and non-Forest Service persons during the development of this environmental assessment:

FEDERAL, STATE, AND LOCAL AGENCIES

U.S. Fish and Wildlife Service	National Marine Fisheries Service
Oregon Historic Preservation Office	Bonneville Power Administration
Northwest Power Planning Council	Clackamas River Water
South Fork Water Board	Oak Lodge Water Board
Mt. Scott Water District	Bureau of Land Management
Metro	Clackamas River Basin Council
City of Estacada	City of Gresham
City of Lake Oswego	City of Gladstone
City of Oregon City	City of West Linn
Clackamas County	Oregon Department of Transportation

Oregon State Parks	Oregon Department of Forestry
Oregon Department of Fish and Wildlife	Oregon Division of Lands
Oregon Marine Board	Eagle Creek National Fish Hatchery
Environmental Protection Agency	

TRIBES

Confederated Tribes of Warm Springs
Confederated Tribes of Grande Ronde
Yakima Indian Nation Tribal Council

CHAPTER 5 - LIST OF PREPARERS

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